



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Y. INOUE et al.

Serial Number: **09/228,148**

Group Art Unit: **2823**

Filed: **January 11, 1999**

Examiner: **K. Eaton**

For: **MANUFACTURING METHOD OF SEMICONDUCTOR DEVICE INCLUDING
AN INSULATION FILM ON A CONDUCTIVE (AS AMENDED)**

REQUEST FOR RECONSIDERATION AFTER FINAL REJECTION

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Commissioner for Patents
Washington, D.C. 20231

Date: June 21, 2001

Sir:

In response to the Office Action dated March 21, 2001, applicants request favorable reconsideration of the above-identified application. Claims 9-18 are pending.

In paragraph 1 of the Office Action, a requirement for a new title is made. However, the title had been amended in the prior response. It appears that the Examiner may have overlooked the new title.

Claims 9-13 and 15-18 are rejected under 35 USC § 103(a) as being unpatentable over Leong in view of Wolf et al., and claim 14 was rejected under USC § 103(a) as being unpatentable over these references further in view of Wolf. In the Examiner's response to applicants prior arguments, the Examiner argues that the anti-reflective coating of Wolf et al. is made of the same material as the claimed intrusion prevention film, and that "the fact that applicant has recognized another advantage which would flow naturally from following the

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suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious.” Favorable reconsideration is earnestly solicited.

The decision cited by the Examiner does not apply to the present application. The applicants have not merely recognized “another advantage which would flow naturally from following the suggestion of the prior art.”

Apparently, the Examiner has not correctly understood the arguments regarding Wolf et al. being directed to an entirely different aspect from the claimed invention. This is not merely “another advantage which would flow naturally from following the suggestion of the prior art.”

Wolf et al. is directed to an anti-reflective coating (ARC). Wolf discusses the need to increase the optical absorbance of resists and to reduce the effects of standing wave interference and light scattering, especially over highly reflective substrates. The ARC of Wolf et al. is a polymer film to absorb most of the radiation which penetrates the resist.

Leong is directed to a method of SOG curing by ion implantation. As acknowledged by the Examiner, Leong does not show forming a film to substantially prevent the impurities introduced into the first insulation film from entering the conductive layer prior to the step of forming the first insulation film.

Since Wolf et al. is concerned with reducing the effects of standing wave interference and light scattering radiation penetrating the resist, there would have been no motivation or suggestion to have modified Leong as asserted by the Examiner since Leong would not be concerned with reducing the effects of standing wave interference and light scattering. Thus, as argued in the prior response, Wolf et al. is directed to an entirely different aspect from the claimed invention, which introduces impurities into a first insulation film on a conductive layer.

Claim 9 requires the steps of forming a first insulation film on a conductive layer formed on a substrate, introducing impurities into said first insulation film, and forming an intrusion prevention film to substantially prevent the impurities introduced into said first insulation film from entering said conductive layer prior to the step of forming said first insulation film. There is no suggestion in the cited art to combine the references in the manner suggested by the Examiner.

Claim 11 sets forth a step of forming a second insulation film prior to the step of forming the first insulation film, and claim 12 specifies that the second insulation film includes a film less hygroscopic than the first insulation film. Furthermore, claim 13 sets forth the step of forming a third insulation film. The cited art does not provide any teaching or suggestion of these features.

Claim 14 specifies that the first insulation film includes silicon oxide containing at least 1% of carbon. Wolf is applied for its disclosure of organic groups added to SOG to improve cracking resistance. Wolf, however, fails to provide the teachings which the primary references lack.

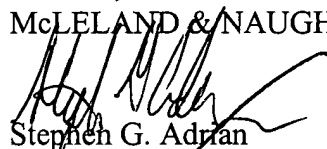
For at least the foregoing reasons, the claimed invention distinguishes over the cited art and defines patentable subject matter. Favorable reconsideration is earnestly solicited.

Should the Examiner deem that any further action by applicants would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone applicants' undersigned attorney.

In the event that this paper is not timely filed, applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees which may be due with respect to this paper, may be charged to Deposit Account No. 01-2340.

Respectfully submitted,

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